

*Letter from Mr. Lassell to Mr. Sheepshanks.**“Valetta, Nov. 25, 1852.”*

“Since my letter to you of the 2d, I have been favoured with one or two nights of finer quality than usual, especially the 4th inst., when the planet *Uranus* and his four satellites were exhibited with a power of 1018 in a style I never saw before or ever hoped to see. The near satellites were bright objects, and not for a moment to be overlooked. The disc of the planet was harder and sharper than I have ever seen it with any power in England, yet I could not satisfactorily make out any phenomena upon its surface. Under these favourable circumstances I carefully surveyed the planet round to the distance of $2\frac{1}{2}$, without finding any points of light which might probably be other satellites. I obtained on this occasion good micrometrical measures in position and distance of all the four satellites, and also some measures of the diameter of the disc.

“The view of *Saturn* with 650 left nothing to desire in hardness and sharpness of definition, except the removal of some slight atmospheric disturbances rendered visible with this power. So far as the telescope was concerned, no defect whatever of the image was appreciable. The view with 22 inches was compared with that afforded by the full aperture, and the latter was preferred, the outside annulus appearing to add to the light and sharpness of the image, though it diminished the blackness of the field. A number of minute and exquisite *markings* on the southern portion of the ball, together with three distinct dark blue or bluish-green belts, were for the first time distinctly noted; and both limbs of the planet were most distinctly traced *through the obscure ring*, quite up to the inner edge of the inner bright ring. What can this marvellous and unique appendage—the obscure ring—be? I do not venture much into the field of speculation myself, but I can scarcely help wondering whether this sort of tangible nebula can be a connecting link between the more attenuated nebulae of the universe, and the solid bodies of our planetary system?

“In other respects, the views of *Saturn* obtained on this remarkably fine night did not add much to the phenomena I had previously seen by glimpses; but my attention became more directed to the delineation of the belts and phenomena of the ball; and between this night and the 13th inst., I made a number of observations, which by means of description, and a sufficiently rude drawing sent herewith, I will attempt to put upon record. First, then, referring to Mr. De la Rue’s diagram, and reckoning southward from the southern portion of the obscure ring where it crosses the ball, there is the brilliant zone about equal in breadth to the sum of the two bright rings at their narrowest part. Secondly, the principal ruddy belt extending from about 7° to 28° south latitude. Thirdly, a white zone about 5° broad, not, however, so brilliant as the first zone, nor so uniform and well defined in its brightness.

Fourthly, a yellowish ruddy belt terminating sharply about 45° , in. Fifthly, an extremely narrow dark blue or bluish-green belt, Sixthly, another light zone, but of a deeper shade, and marking the commencement of the bluish-green portion. Seventhly, a lighter narrow blue belt passing through the 60th degree. Eighthly, a still deeper-shaded light zone. Ninthly, a sharply-defined, very dark blue belt, a little above the 70th degree, and encircling the pole. Of this belt about three-fourths of the whole circle can be seen, including within it the pole itself, marked by a lighter-coloured spot of about 20° diameter. Thus, if the less shaded parts, or those I have called zones, be the body of the planet, there will be distinctly traced *five belts*,—two ruddy and three of a neutral tint or bluish-green colour. I scarcely know how to apologise sufficiently for the rudeness of the drawing; but not being an artist, I have not attempted to produce an artistic effect, but only to convey a correct idea. And I have, I believe, only further to observe, that while I have not attempted to introduce the more delicate lines, something like what I have drawn undoubtedly exists on the planet, though softened down and made infinitely less *staring* than it is in the drawing.

“The ambiguous ‘spot’ on the south-following portion of ring *B*, close to the ball mentioned in my former letter, appears to have been the germ of the coming shadow, which, on the 15th inst. had become plain on the following portion of ring *B*, without being visible on ring *A*, and while the shadow still lingered on the preceding side. This lingering shadow had now assumed the form which the ‘spot’ previously spoken of presented in the early part of October, and would appear to be the ‘remarkable sudden projection of the shadow of the ball’ there spoken of. Whether or no this projection indicates, as has been suggested, some peculiarity of form of the edges of the rings, I certainly saw the shadow itself fairly entered on ring *B* on the following side, while it still remained visible as a fine line on the preceding side.

“I shall obtain, I doubt not, some additional testimony about the orbit of *Hyperion*, having watched him through an entire period, and obtained measures of him even at both his opposition and conjunction.

“This is a marvellous climate, a single month yielding almost three times as many observations of the satellites of *Uranus* and *Neptune* as I got all last year! The last three days, however, the weather has broken, and we have violent gusts of wind and tremendous showers of rain.”

On the Appearances of Saturn. By Mr. Dawes.

With a Drawing.

“The accompanying sketch of the planet *Saturn* represents the principal phenomena seen by me during the month immediately subsequent to the 19th of last September. One of Mr. Warren